

Sheet 1-2, Sheet 8.  
Whiteside & Shinn.

Loom.

N<sup>o</sup> 13,022.

Patented Jun. 5, 1855.

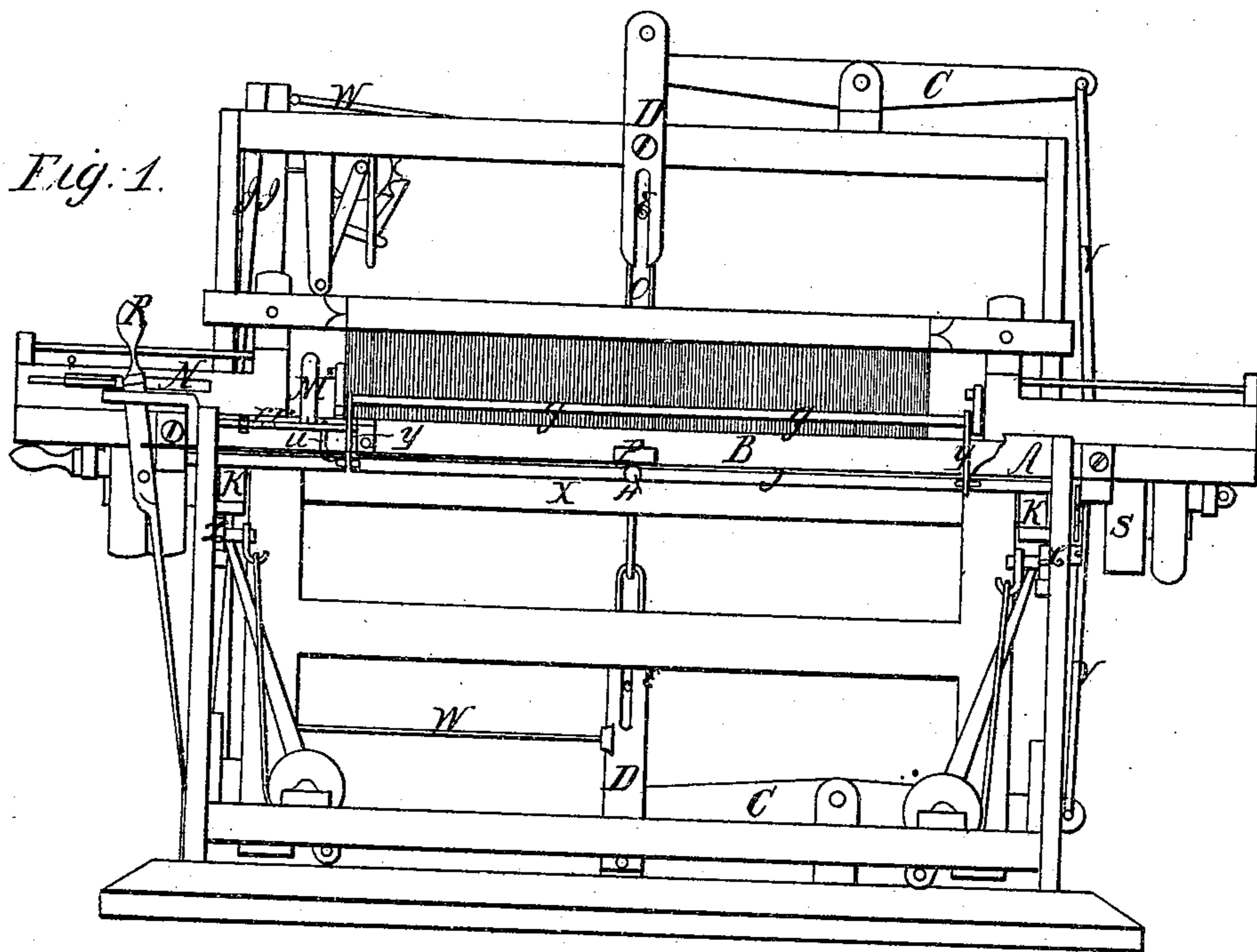
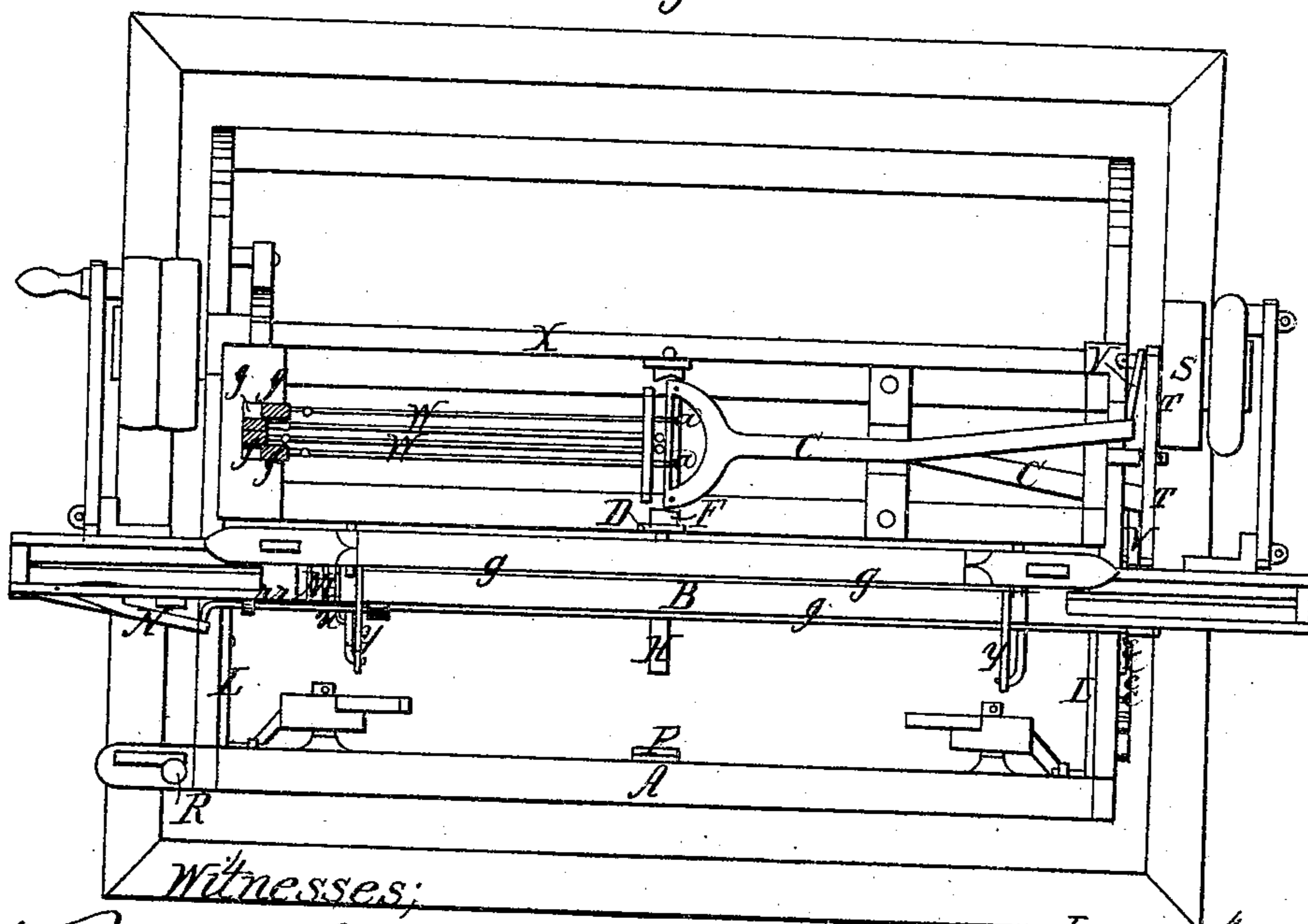


Fig. 2.



Witnesses;  
William Hodson  
Alex Lackey

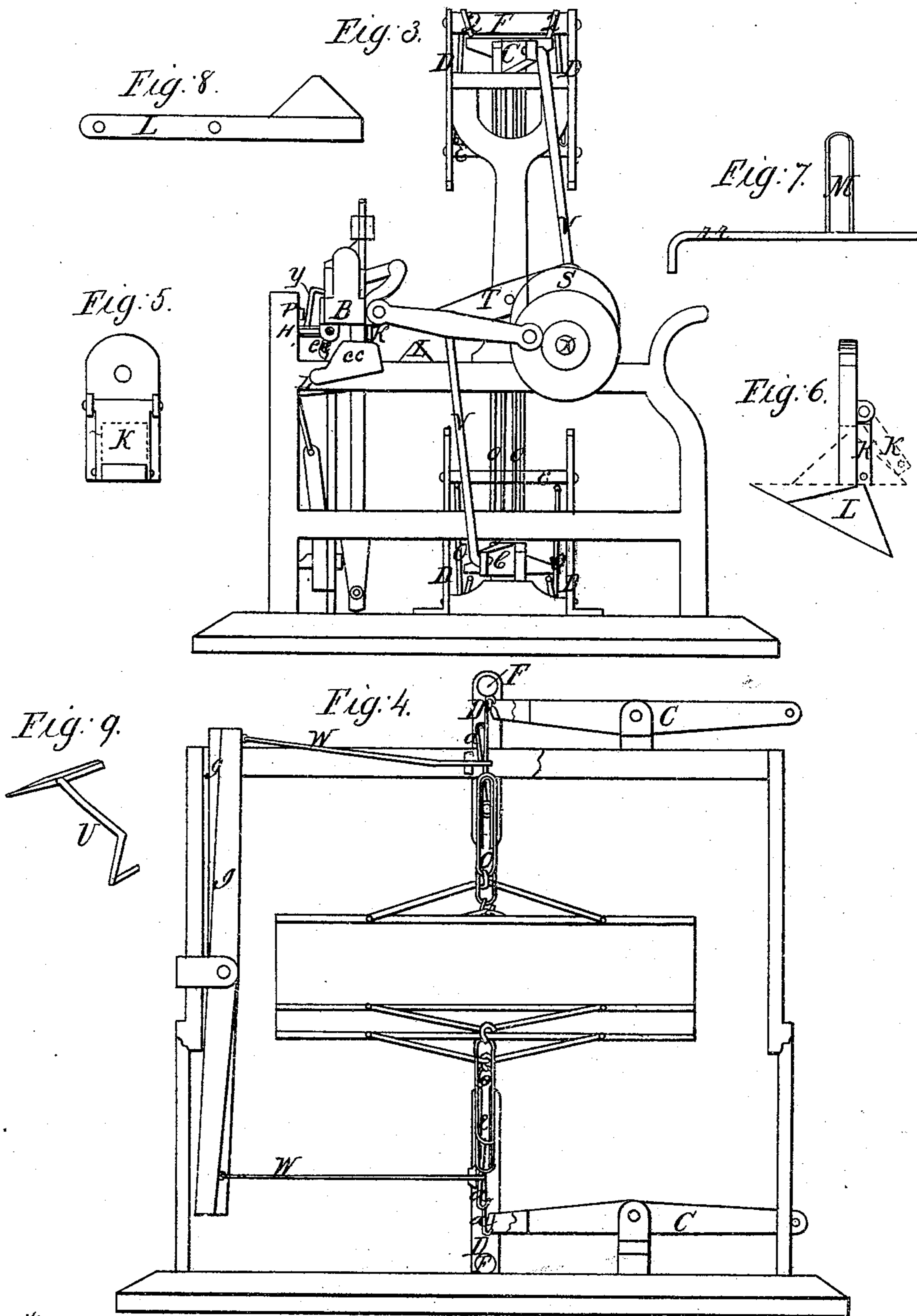
Inventor;  
William Whiteside  
John Shinn.

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# UNITED STATES PATENT OFFICE.

JOHN SHINN AND WM. WHITESIDE, OF PHILADELPHIA, PENNSYLVANIA.

## LOOM.

Specification of Letters Patent No. 13,022, dated June 5, 1855.

*To all whom it may concern:*

Be it known that we, JOHN SHINN and WILLIAM WHITESIDE, of the consolidated city of Philadelphia, twenty-first ward, late the borough of Manyunk, State of Pennsylvania, have invented some new and useful Improvements on Power-Looms; and we do hereby declare that the following is a clear and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view; Fig. 2 is a birdseye view; Fig. 3 is an end view; Fig. 4 is a section showing the horizontal levers C, C, the vertical levers J, J, the wires W, W, the hooks A, A, the traveling rods E, E, and guides D, D; Figs. 5 and 6 are enlarged views of the swinging plate K, K; Fig. 7 is an enlarged view of the vibrating staple or a loop *m*, attached to the rod R, R; Fig. 8 is an enlarged view of the levers L, L; Fig. 9 is an enlarged view of the balanced catch N.

We will now proceed to describe their construction and operation, by referring to the annexed drawings; similar letters of reference indicate corresponding parts.

The loom framing can be made in any known style or design in which there is a shaft X, on which is an eccentric grooved cam S, in which groove there is a roller on a stud attached to one end of the lever T, which works on a stud in the center of the lever T, fastened to the loom framing. From the ends of the lever T are connections V, V, which communicate the motion to the levers C, C, to open the warp-shed evenly both ways. At the lifting and depressing ends of the levers C, C, are attached straps 2 2, which pass over the rollers F, F, and connect with the traveling rods E, E, in the loops O, O, and as the shed closes the rods E, E, will bring the hooks *a*, *a*, to their proper position to be ready for the next movement of the pattern roller. The pattern roller communicates motion to vertical levers J, J, which work upon a center pin or stud attached to the loom framing, so that the pattern roller (or chain when one is needed) presses the top of the levers when it is necessary to draw the harness down and unconnect the top hook and connect the bottom hook, and so on as the pattern is changed, by which means we get a varied shed. Also providing the loom with

levers L, L, (Fig. 8) hung on studs attached to the sides of the loom frame; on one end is a cam operated on by the swinging plate (Figs. 5 and 6, marked K, K,) attached to the lay, which operates only in the backward motion of the lay; and as the lay goes back the plates K K will come in contact with the cams on the levers L L, and depress them at that end, and cause the other end to rise, which is connected to the picking staffs pulleys by means of straps, and gives motion to the pickers in the usual manner. Also providing the rod G in front of the reed, and made to vibrate on arms, which are attached to studs or pins fastened on the back of the lay in such a manner that the rod will rise and fall freely in front of the reed. The rod G is connected to the rod I, which is an ordinary protecting rod with the protecting finger H on it by means of the connections *y y*. On the rod I is a finger *e e*, under which is a cam *c c* attached to the loom frame; as the lay goes back the finger *e e* on the rod G comes in contact with the cam *c c*, causing the rods I and G to rise for the shuttle to pass under the rod G, and should the shuttle fail to enter the box, it will arrest the downward motion of the rod G, and cause the finger H, on the rod I to strike the lever P on the breast A, which will shift the driving strap, and immediately arrest the further advance of the lay, and prevent any injury to the warp threads. Also providing the loom with the staple or loop M (Fig. 7) attached to the rod *r r*, and placed on the front of the lay near the mouth of the shuttle box, and operated by the swell N; as the shuttle enters the box it presses out the swell N, and the staple falls across the race of the lay, and if there be no weft thread across the opening in the race of the lay the staple M will fall through the opening, and strike the balanced catch U (Fig. 9), which is placed a little below the race, so as to let the shuttle pass over it. If the thread is broken or the bobbin is exhausted the staple M will press the catch under the arm on the rod at the connection T, and cause the finger H to strike the lever P, and stop the loom as before described.

We do not claim the controlling of the whole series of harness or a part of them, by one lever at the top of the loom and a number of levers at the bottom of the loom; but

What we do claim as our improvement,

and desire the same secured to us accordingly, is—

1. The combination and arrangement of one lever at the bottom of the loom, with one  
5 at the top, in such a manner as to control any number of levers of harness that may be desirable, and open the warp-shed evenly both ways, as described.

2. We also claim the combination of the  
10 guides, traveling rods, the rollers F, F, and straps connecting the lever C, C, for the purpose of bringing the hooks to their proper place in time to be ready for the next movement of the pattern roller, as described.  
15

3. We do not claim the vertical levers for the purpose of opening the warp shed—but we do claim them in combination with the wires W, W, for the purpose of actuating  
20 the hooks, as described.

4. We do not claim the swinging plates K, K, but we do claim the combination of the swinging plates K, K, with the levers, L, L, or the equivalent arrangement of the  
25 same for the purpose of actuating the pickers as described.

5. We claim the rod, G, or its equivalent, so arranged with the rod, I, that when the shuttle is arrested in front of the reed, it will cause the protecting finger H, to strike  
30 the lever P, and shift the driving strap and immediately arrest the further advance of the lay, as described.

6. The following we claim as an improvement on the machine of E. Burt, dated June  
35 20th, 1845, in which the said E. Burt claims the hanging weft protector on the race of the lay itself: The hanging of the loop on the race we do not claim, but that which we claim as our improvement and desire the  
40 same secured to us accordingly, the balance catch U, in combination with the loop M, and operated by the swell N, so that when the weft thread is broken or exhausted it will immediately arrest the motion of the  
45 loom in the first forward motion of the lay as described.

JOHN SHINN.

WILLIAM WHITESIDE

In the presence of—

WILLIAM HODSON,

ALEX LOCKES.